

Amendments to the claims (this listing replaces all prior versions):

1. (canceled).
2. (currently amended) ~~A vehicle suspension system in accordance with claim 6~~ A vehicle suspension system for a surface vehicle having a payload compartment and a surface engaging device, comprising:

a sensor for acquiring vertical deflection data;

a controllable suspension element for applying a force between said payload compartment and said surface engaging device;

a profile storage device for storing a plurality of profiles of paths,

said profiles including vertical deflection data; and

a profile retrieving microprocessor coupled to said controllable suspension element and to said profile storage device for retrieving from said profile storage device one of said profiles; and

a microprocessor to compare said acquired vertical deflection data with stored profiles of vertical deflection data and to control said controllable suspension element based one of said stored profiles that corresponds to a path along which said vehicle is traveling,
wherein said profile storage device is located remotely from said surface vehicle.
3. (currently amended) ~~A vehicle suspension system in accordance with claim 6~~ A vehicle suspension system for a surface vehicle having a payload compartment and a surface engaging device, comprising:

a sensor for acquiring vertical deflection data;

a controllable suspension element for applying a force between said payload compartment and said surface engaging device;

a profile storage device for storing a plurality of profiles of paths,

said profiles including vertical deflection data; and

a profile retrieving microprocessor coupled to said controllable suspension element and
to said profile storage device for retrieving from said profile storage device one of said
profiles; and

a microprocessor to compare said acquired vertical deflection data with stored profiles of
vertical deflection data and to control said controllable suspension element based one of
said stored profiles that corresponds to a path along which said vehicle is traveling,
wherein said profile retrieving microprocessor is located remotely from said surface
vehicle.

4. (previously presented) A vehicle suspension system in accordance with claim 6 and
further comprising

a locator system, coupled to said microprocessor for determining the location of said
surface vehicle.

5. (canceled).

6. (currently amended) A vehicle suspension system for a surface vehicle having a payload
compartment and a surface engaging device, comprising:

a sensor for acquiring vertical deflection data;

a controllable suspension element for applying a force between said payload
compartment and said surface engaging device;

a profile storage device for storing a plurality of profiles of paths,

said profiles including vertical deflection data; and

a profile retrieving microprocessor coupled to said controllable suspension element and
to said profile storage device for retrieving from said profile storage device one of said
profiles; and

a microprocessor to compare said acquired vertical deflection data with stored profiles of vertical deflection data and to control said controllable suspension element based one of said stored profiles that corresponds to a path along which said vehicle is traveling.

7. (previously presented) A vehicle suspension for a surface vehicle having a payload compartment and a surface engaging device, comprising:

a sensor for acquiring vertical deflection data;

a controllable suspension element for applying a force between said payload compartment and said surface engaging device;

a profile storage device for storing a plurality of profiles of paths,

said profiles including vertical deflection data; and

a profile retrieving microprocessor coupled to said controllable suspension element and to said profile storage device for retrieving from said profile storage device one of said profiles,

said one profile corresponding to the path on which said vehicle is traveling wherein said microprocessor is adapted to modify said profile and to store said modified profile in said profile storage device.

8. (currently amended) ~~A vehicle suspension system in accordance with claim 6 and further comprising:~~ A vehicle suspension system for a surface vehicle having a payload compartment and a surface engaging device, comprising:

a sensor for acquiring vertical deflection data;

a controllable suspension element for applying a force between said payload compartment and said surface engaging device;

a profile storage device for storing a plurality of profiles of paths,

said profiles including vertical deflection data; and

a profile retrieving microprocessor coupled to said controllable suspension element and to said profile storage device for retrieving from said profile storage device one of said profiles;

a microprocessor to compare said acquired vertical deflection data with stored profiles of vertical deflection data and to control said controllable suspension element based one of said stored profiles that corresponds to a path along which said vehicle is traveling; and

a trajectory plan developing microprocessor for developing a trajectory plan corresponding to said retrieved profile.

9. (currently amended) A vehicle suspension system in accordance with claim 8 and further comprising: A vehicle suspension system for a surface vehicle having a payload compartment and a surface engaging device, comprising:

a sensor for acquiring vertical deflection data;

a controllable suspension element for applying a force between said payload compartment and said surface engaging device;

a profile storage device for storing a plurality of profiles of paths,

said profiles including vertical deflection data; and

a profile retrieving microprocessor coupled to said controllable suspension element and to said profile storage device for retrieving from said profile storage device one of said profiles;

a microprocessor to compare said acquired vertical deflection data with stored profiles of vertical deflection data and to control said controllable suspension element based one of said stored profiles that corresponds to a path along which said vehicle is traveling; and

a control processor for issuing command signals to said controllable suspension element to execute said trajectory plan.

10-19. (canceled).

20. (previously presented) An active suspension system for a surface vehicle for operating on a path, comprising,
- an active suspension;
- a profile sensor for sensing a profile of said path;
- a road profile storage device for storing a database of path profiles; and
- a path profile microprocessor coupled to said storage device and to said profile sensor for comparing said sensed profile with said database of path profiles.
21. (original) An active suspension system in accordance with claim 20,
- wherein said road profile storage device is located remotely from said surface vehicle.
22. (original) An active suspension system in accordance with claim 20,
- wherein said road profile microprocessor is located remotely from said surface vehicle.
23. (original) An active suspension system in accordance with claim 20 and further comprising,
- a trajectory plan storage device for storing a database of trajectory plans, said trajectory plans corresponding to said road profiles;
- a trajectory plan microprocessor coupled to said storage device and to said road profile microprocessor and responsive to said road profile microprocessor for retrieving one of said trajectory plans and for communicating instruction signals based on said one of said trajectories to said active suspension.
24. (original) An active suspension system in accordance with claim 23, wherein said trajectory plan storage device is located remotely from said surface vehicle.

25. (original) An active suspension system in accordance with claim 23, wherein said trajectory plan microprocessor is located remotely from said surface vehicle.
26. (original) An active suspension system in accordance with claim 20 and further comprising,

a trajectory plan development microprocessor coupled to said active suspension for developing a vertical trajectory plan for said sensed profile.
- 27-83. (canceled).